

# The Effectiveness of Leachate Treatment in Pulau Burung Sanitary Landfill, Pulau Pinang

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## ABSTRACT

*Leachate is any liquid that has percolated through or drained from waste. Leachate may cause harm in many ways. Serious environmental damage and threats to the community may result from leachate that is being released into the soil, groundwater, river or stream. Pulau Burung Disposal Site, which was first established in 1980s covers an area of about 62.4 hectares and using the concept of Semi-Aerobic Recirculatory System or Fukuoka Method. This landfill area has the capacity to take in about 1600 tones of solid waste daily. The objectives of this study are to determine the pH and temperature of leachate, to determine the total removal percentage of Chemical Oxygen Demand (COD) and turbidity, to compare all parameters tested with Standard B of the Environmental Quality Act 1974 (EQA 1974); and thus determine the effectiveness of leachate treatment method used at Pulau Burung Sanitary Landfill. The samples were taken twice a week for three weeks at eight sampling points. Results from this study shows that the pH and temperature of the leachate are within the Standard B of the EQA 1974, while COD exceeds the limit of Standard B. However, high total removal percentage of COD and turbidity indicate that the leachate treatment method conducted in Pulau Burung Sanitary Landfill is effective.*

**Keywords:** *effectiveness, removal percentage, leachate treatment, sanitary landfill, Pulau Pinang*